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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,641	10/12/2001	Daniel Xu	INTO-0004-US	2057

7590 01/30/2004
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EXAMINER


BAUMEISTER, BRADLEY W

ART UNIT PAPER NUMBER

2815

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No. 09/976,641	Applicant(s) XU ET AL.	
	Examiner B. William Baumeister	Art Unit 2815	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 02 January 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☒ Applicant's reply has overcome the following rejection(s): the amendment overcomes the 112-2nd paragraph rejection.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

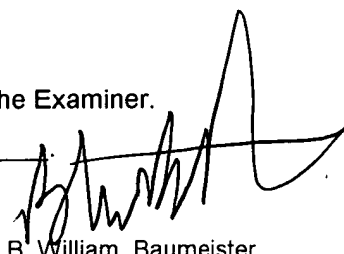
Claim(s) objected to: _____

Claim(s) rejected: 11-14 and 16-30.

Claim(s) withdrawn from consideration: _____

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
10. ☐ Other: _____

**B. WILLIAM BAUMEISTER
PRIMARY EXAMINER**


B. William Baumeister
Primary Examiner
Art Unit: 2815

Continuation of 5. does NOT place the application in condition for allowance because:

Applicant argues that (1) while Ovshinsky teaches the inclusion of a more lightly-doped n-type region over the heavily-doped region, this lightly-doped region in Ovshinsky is formed so as to be in an epitaxial layer as opposed to being in the bulk substrate, and (2) that Chang—which does teach the formation of diodes in only bulk substrates as opposed to also in epitaxial layers—does not teach the inclusion of a more lightly-doped superposed layer, and as such, the combination of these references does not render the claims obvious. This argument is not persuasive because Chang was not relied upon for the teaching of including a more lightly-doped superposed layer. Rather, as Applicant acknowledged, this region was taught by Ovshinsky. Chang was relied upon for evidencing the propositions that (1) it was known to form a more lightly-doped region under the heavily-doped region within the substrate and (2) forming all three of these regions as taught by either Ovshinsky or Chang so as to be only in a bulk substrate was a functional equivalent to forming them in the bulk substrate and in the epitaxial region.

Applicant further argues that the fact, that neither Ovshinsky nor Chang specifically teaches the upper lightly-doped region may be formed in the bulk instead of the epitaxial region, indicates that neither Chang nor Ovshinsky had any idea how to make a more lightly doped region/heavily doped region/lightly doped region in the substrate. This argument is not persuasive because Chang evidences that it was known how to make a more lightly doped region under the heavily doped region within the substrate, and Slotboom '326 further evidences that it was also known how to make such lightly-over-heavily doped regions as taught by Ovshinsky, specifically in a bulk substrate (see e.g., FIG 2a, p+ region 3 and p region 4, and col. 4, lines 50-55).